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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/591,888

06/09/2000

Anand G. Dabak

TI-29324

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06/30/2005

TEXAS INSTRUMENTS INCORPORATED

P O BOX 655474, M/S 3999

DALLAS, TX 75265

EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/591,888

Applicant(s)

DABAK, ANAND G.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-20,22-34,47-50 and 52-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19,23,24 and 30-34 is/are allowed.
- 6) ☒ Claim(s) 1,5-9,20,22,25-29,47-50 and 52-56 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on 6/8/2005, PROSECUTION IS HEREBY REOPENED. A rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 25-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 25 is directed to a process, which consists solely of mathematical operations, i.e. selecting, repeating, and multiplying codes, and, thus, contains non-statutory subject matter. To be a statutory process claim, the claim must either have independent physical acts, or manipulation of data representing physical objects or activities, or be limited to a practical application by producing a concrete, tangible, and useful result.

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4. Claims 47-50 and 52-56 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 47 is directed to a process, which consists solely of mathematical operations, i.e. receiving and correlating groups of signals, and, thus, contains non-statutory subject matter. To be a statutory process claim, the claim must either have independent physical acts, or manipulation of data representing physical objects or activities, or be limited to a practical application by producing a concrete, tangible, and useful result.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 8, 9, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Scott et al. (USPN 6,154,486).

7. Regarding claims 1 and 20, Applicant admits as prior art a method of operating a wireless communications unit to request a connection with a base station and a unit for performing the method (page 2, line 12-page 4, line 5), comprising the steps of and means for: receiving, from the base station, a signal indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit (page 3, lines 3-10); selecting one of a plurality of orthogonal codes for the preamble (page 3, lines 11-24); generating a spread code (channel selection code) using the selected orthogonal code (page 3, lines 11-24); multiplying the spread code by a scrambling code ("spread into 256 chips"), wherein the spread code has a length corresponding to a length of the scrambling code (page 3, line 25-page 4, line 5) where

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“corresponding” is a broad term which allows for any relationship between the two lengths; and transmitting, to the base station, a preamble signal corresponding to the multiplied spread code (page 2, line 12-page 4, line 5).

Applicant does not admit as prior art that the spread code is an orthogonal code repeated a selected number of repetitions. Scott teaches, in a wireless spread-spectrum transmission system (col. 7, line 35-col. 8, line 11 and col. 51, lines 54-58), having the preamble be an orthogonal code repeated a selected number of repetitions (col. 3, lines 58-60 and col. 25, lines 33-44) in order to provide a preamble code that allows for rapid synchronization at the receiver (benefit of short codes) while being resistant to noise and interference (benefit of long codes) (col. 2, lines 42-51 and col. 2, line 66-col. 3, line 12). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the spread code be an orthogonal code repeated a selected number of repetitions in order to provide a preamble code that allows for rapid synchronization at the receiver.

Applicant does not admit as prior art that the scrambling code is associated with the base station. Scott teaches, in a wireless spread-spectrum transmission system, using a scrambling code (spread spectrum code) associated with the base station (col. 7, line 35-col. 8, line 11) in order to reduce the possibility of intercell interference (col. 7, line 35-col. 8, line 11). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to associate the scrambling code with the base station in order to reduce the possibility of intercell interference.

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8. Regarding claim 8, Applicant's admitted prior art in view of Scott discloses that the selecting step comprises executing a pseudo-random selection algorithm (Applicant: page 3, lines 11-24).

9. Regarding claim 9, Applicant's admitted prior art in view of Scott discloses that the receiving step receives a signal indicating a plurality of time slots within which the preamble may be transmitted by the wireless communications unit (Applicant: page 3, line 3-10); and further comprising: selecting one of the plurality of time slots for transmission of the preamble (Applicant: page 3, lines 3-24).

10. Claims 5-7 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Scott et al. (USPN 6,154,486) as applied to claims 1 and 20 above, and further in view of Minn et al. (USPN 6,088,347).

11. Regarding claims 5-7 and 22, Applicant's admitted prior art in view of Scott does not expressly disclose that the orthogonal codes consist of a set of Walsh Hadamard codes. Rather Applicant's admitted prior art in view of Scott discloses that the orthogonal codes can be "a well known type of code, such as Gold code, Kasami code, or Boztas code, to name a few" (col. 25, lines 36-38). Minn teaches, in a spread spectrum wireless communication system, that "[a]ll Walsh codes derived from a Hadamard matrix are mutually orthogonal" (col. 4, lines 31-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the orthogonal codes consist of a set of Walsh Hadamard codes since Walsh Hadamard codes are mutually orthogonal.

Applicant's admitted prior art in view of Scott in further view of Minn does not expressly disclose that the orthogonal codes consist of a set of Walsh Hadamard codes having a length of

sixteen; wherein the generating step repeats a symbol of the Walsh Hadamard code 256 times or 240 times; and wherein the length of the scrambling code is 4096 chips or 3840 chips, respectively. Applicant's admitted prior art in view of Scott in further view of Minn does disclose that the preamble has a certain length (col. 3, lines 58-60 and col. 25, lines 33-44); that the scrambling code (spread spectrum code) has a certain length (Scott: col. 7, lines 44-55); and that the transmitted signal has the same length as the scrambling code (spread spectrum code) (Scott: col. 7, lines 44-55). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Scott in further view of Minn disclose that the preamble codes have a certain length, that the scrambling code has a certain length, and that the transmitted signal (here the length of the repeated preamble code) and the scrambling code have equal length, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any length for the Hadamard codes, including sixteen, to use any length for the scrambling code, including 4096 and 3840, and to repeat the Hadamard code a number of times such that the Hadamard code and the spreading code are equal (here, 256 times or 240 times).

Allowable Subject Matter

12. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest having the base station de-interleave the bits to group corresponding bits from each of the repetitions of the symbol in order to despread the grouped bits to recover a symbol and then correlate the symbols to identify a code. Rather the prior art suggests despread and then correlating the signal without de-interleaving.

13. Claims 11-19, 23, 24, and 30-34 are allowed. The prior art does not disclose or fairly suggest having the base station de-interleave the bits to group corresponding bits from each of the repetitions of the symbol in order to despread the grouped bits to recover a symbol and then correlate the symbols to identify a code. Rather the prior art suggests despread and then correlating the signal without de-interleaving.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

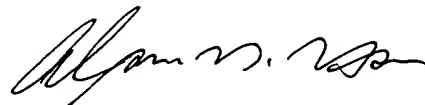
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DR

Daniel J. Ryman
Examiner
Art Unit 2665



ALPUS H. HSU
PRIMARY EXAMINER